

DOCKETED

IN THE UNITED STATES DISTRICT COURT FOR THE
SOUTHERN DISTRICT OF NEW YORK

MIDWAY MANUFACTURING COMPANY: Deposition of
vs. : Gordon Richard Green
THE MAGNAVOX COMPANY :
and :
SANDERS ASSOCIATES, INC. :

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION

THE MAGNAVOX COMPANY, et al : Consolidated Actions
vs. : 74 C 1030 ✓
74 C 2510 ✓
BALLY MANUFACTURING : 75 C 3153
CORPORATION, et al : 75 C 3933

Deposition taken pursuant to
subpoena and notice at the Sanders Associates, Inc.,
Headquarters, Spit Brook Road, Nashua, New Hampshire;
Monday, April 26, 1976; commencing at two o'clock in the
afternoon.

FILED

OCT - 8 1976

ERNEST W. NOLIN & ASSOCIATES

General Stenographic Reporters
369 ELGIN AVE., MANCHESTER, N. H. 03104
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H. STUART CUMMINGS, CLERK
UNITED STATES DISTRICT COURT

ORIGINAL

Q. Where did you receive your degree? PRESENT;

A. I received my degree from For Midway Manufacturing Company/
Bally Manufacturing Corporation
and Empire;

Q. Do you have a record? Donald L. Welsh, Esq., 135 South
LaSalle Street, Chicago, Illinois

A. Yes. For Atari, Inc.:

Q. What was that? Flehr, Hohbach, Test, Albritton
A. College. Case Inari & Herbert, by Edward S. Wright,
Esq., 160 Sansome Street,
Q. Did you receive a degree? 15th Floor, San Francisco,
California.

A. Yes. For Sanders Associates, Inc.,
and Magnavox Company:

Q. What degree did you receive? Theodore W. Anderson, Esq.,
77 West Washington Street,
A. B.S. Chicago, Illinois.

Q. When did you receive it? For Sanders Associates:

A. June, '51. Louis Etlinger, Esq., and
Richard I. Seligman, Esq.,
Q. Have you had any other degrees? Daniel Webster Highway, South,
Nashua, New Hampshire.

Q. Are you employed now? Stenotype Reporter:
A. Yes. Ronald J. Hayward

Q. By Sanders Associates? GORDON RICHARD GREEN

called as a witness, being first duly sworn, was examined
and testified as follows: a senior engineer.

Q. (Interrogatories by Mr. Welsh.)

Q. Would you state your full name for the record, please?

A. Gordon Richard Green. particular department or

Q. Where do you live, Mr. Green?

A. Hudson, New Hampshire. department, but I am doing

Q. Do you have a formal education after high school?

A. Yes. department are you assigned to?

Q. What was that? y sure of the name, it is something

A. College. ar Case Institute of Technology. it used

Q. Did you receive a degree? lopment, but I am not sure

A. Yes. he formal name now. ar Case Institute of Technology

Q. What degree did you receive? ned to that group?

A. BSEE. years ago January. ar Case Institute of Technology

Q. When did you receive that? with that group?

A. June, '51. ar Case design, hardware consulting and

Q. Have you had any formal education since that time?

A. No. ve worked with any particular computers during

Q. Are you employed now? ar Case Institute of Technology

A. Yes. ve worked with the P. E-10 and I have worked

Q. By Sanders? 800 microprocessor and we have a r

A. Yes. lopment system for that, the Intellec, it is

Q. And in what capacity? operation and it is based on

A. As an engineer. As a senior engineer. ve used the

Q. How long have you held that position? ve used the

A. Since February, '63. ve used the same person during that

- Q. Do you now work in a particular department or
A. division?
- A. I am assigned to one department, but I am doing
A. work for other groups as well.
- Q. What department are you assigned to?
A. I am not really sure of the name, it is something
A. like radar - it is the radar group or - it used
Q. to be advanced radar development, but I am not sure
A. of the formal name now.
- Q. How long have you been assigned to that group?
A. Three years ago January.
- Q. What have been your duties with that group?
A. Digital hardware design, hardware consulting and
A. software, computer simulations.
- Q. Have you worked with any particular computers during
A. that period?
A. I have worked with the PDP-10 and I have worked
with the 8080 microprocessor and we have a
development system for that, the Intellec, it is
produced by Intel Corporation and it is based on
their 8080 microprocessor chip. I have used the
370 on rare occasions.
- Q. Have you reported to the same person during that

A. same period? and Area Alerting Radar.

A. No. you work with computers during that period?

Q. To whom have you reported? name of object: by

A. Well, there is no person initially, but, originally it was Alistair Matheson and now it is E. Hamer.

Q. Were they successive heads of that group?

A. Yes. THE WITNESS: Yes, I did.

Q. For what group or department did you work prior

A. to the time you started with the radar groups about three years ago January? and News. And we also

A. I worked for, I guess it was, Corporate Advanced Development under Martin Richmond, or 590 or

Q. During what period did you hold that position?

A. From about mid-February, '64, until January, '73.

Q. *catch* what were your duties in that group?

A. Hardware - primarily implementation of experiments, reduction to practice of various ideas, some of which patents were applied for, and computer, of simulization of some of the experiments to extend

Q. it to larger scale. I was also loaned to the

A. other department that I later am in now for some hardware development in the FAAR System. ing there

Q. What was the FAAR System? ter with the MIP-16. It

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A. It is a Forward Area Alerting Radar.

Q. Did you work with computers during that period?

MR. ANDERSON: I object; by that period, you mean from mid-February, '64, to January of '73?

MR. WELSH: Yes.

THE WITNESS: Yes, I did.

Q. What computers? There was one period of about

A. Time-sharing service called Telcomp which was operated by Bolt Beranek and Newman. And we also used AVCO's computer services. I forget the number of their original model, 72 or 590 or something of this sort, which they later replaced with an IBM 360 Model No. 75 and it was to send ~~match~~ jobs over there.

Batch
5/28/76

MR. ANDERSON: That is AVCO?

THE WITNESS: Yes. That was set prior to Sanders acquiring the PDP-10. Then, of course, the PDP-10.

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Q. Any others? rth wing?

A. Not that I actually worked on as part of the job. That is not quite true, just before leaving there I did have a brief encounter with the MIP-16. It

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is a minicomputer that Sanders makes.

Q. Now, during that same period, were you located in one facility of Sanders or different facilities?

A. Which period? months when you were in the north

Q. The period of mid-February of '64 until January,

A. '73.

A. I was located in the Bedford area, that was my primary office. There was one period of about

A. six months where I was on temporary duty to another

Q. group that was at that time located in this

A. Building. Actually the north wing of this building.

Q. Did the location in this building have any

Q. particular name or designation other than north wing? if during that period?

A. Not that I know of, earlier referred to and there was

Q. Computer room or computer sciences division?

IBM, a small IBM machine. MR. ANDERSON: Well, I object,

the witness said he didn't know and you are trying

to ~~read~~ ^{lead} him. He when the 202-1 was acquired at

Q. Just the north wing?

A. It was a room in the north wing, the second floor.

Q. Well, no, the ground floor, I guess. It has a

basement and a ground floor. MR. ANDERSON: Well, I object,

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*DRG
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Q. Were you located in the Bedford area during that - as your primary office - during that entire period of mid-February, '64, until January of '73, except for this six months when you were in the north wing here? question, if you can.

A. Yes. THE WITNESS: I am not quite

Q. Was the PDP-10 which you worked on at the Bedford location? for a clarification on it.

A. No. the PDP-1 a computer manufactured by someone?

Q. Where was that? Equipment Corporation.

A. It is located in the basement of the north wing of this building.

Q. Were there any computers located in the Bedford facility during that period? the witness.

A. The MIP-16 that I earlier referred to and there was a PDP-1. I believe at one point there was an IBM, a small IBM machine; I don't remember the model. answer the question.

Q. Were you there when the PDP-1 was acquired at Bedford? I'd not answer, I will instruct you not

A. Yes. answer; but my objections are so that the

Q. What is the PDP-1 computer? the question and the answer and decide who. MR. ANDERSON: Well, I object,

the question is vague and indefinite. You mean who made it or was it commercial or was it made of methyl or how big was it?

MR. WELSH: Well, you may answer the question, if you can.

THE WITNESS: I am not quite sure I understand the question. I was just about to ask you for a clarification on it.

Q. Was the PDP-1 a computer manufactured by someone?

A. Yes, Digital Equipment Corporation.

Q. Was it a standard commercial computer of that company?

MR. ANDERSON: I object,

lack of a foundation, leading the witness.

MR. WELSH: You may answer the question. If Mr. Anderson makes an objection from time to time, that is for the record and you may answer the question.

MR. ANDERSON: If I believe you should not answer, I will instruct you not to answer; but my objections are so that the Court can someday look at the question and the answer and decide whether it was a proper one and

can be admitted.

Q. Do you recall approx. THE WITNESS: I have no way
A. of knowing other than I saw a machine, so I would
assume that it is a standard product. I have seen
no other.

Q. Was there a CRT display associated with that.

Q. PDP-1? did you hear?

A. Yes, there was. Is that it might have been B, B & M.

Q. What was the model or designation of that display?

Bedford? MR. ANDERSON: If the witness

A. knows, did.

Q. And what did you use MR. WELSH: Yes.

A. Out of my own copies. THE WITNESS: I don't recall
the model number. It was referred to as a

Q. precision display?

Q. Is the name Type 30 display familiar to you?
trying to put up the MR. ANDERSON: I object,

distributed 5/21/70
you are leading the witness. the Digital Equipment

Corporation User Group. THE WITNESS: I don't recall
the model. re that came with the machine.

Q. When was the PDP-1 acquired at the Bedford facility?

primarily as a learn. MR. ANDERSON: If you know.

of fact on your own. THE WITNESS: I don't recall

Handwritten signature

A. the date. I can't tie it to anything.

Q. Do you recall approximately when it was received?

A. I can only guess that it might have been the late sixties.

Q. Do you know from whom it was obtained?

A. I have no direct knowledge, I may have heard.

Q. What did you hear?

A. My recollection is that it might have been B, B & N.

Q. Did you have occasion to use the PDP-1 computer at

Bedford?

A. Yes, I did.

Q. And what did you use it for?

A. Out of my own curiosity during lunch hours and the evenings.

Q. How did you use it?

A. Primarily as a learning tool. I did spend some time

trying to put up the floating point package

distributed
5/28/76
~~displayed~~ by Decus. It is the Digital Equipment Corporation User Group. And I modified some of

the software that came with the machine.

Q. You say you used it during lunch hours and evenings

primarily as a learning tool, was that then more

or less on your own time?

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A. Yes.

Q. You were using other computers to the extent that you needed them in your regular work, is that correct?

MR. ANDERSON: I object, you are leading the witness. Worse than that, you are testifying.

THE WITNESS: I use them as stated earlier.

Q. What software did come with the PDP-1 machine?

A. Let's see, there was an assembler ^{D DRS 5/28/76} ~~decal~~, there was a ^{DRS 5/28/76} linking loader; I think there might have been parts of the floating point package, those are the only ones that I can recall at this time.

Q. Will you describe what the floating point package was?

A. It was a collection of routines to permit the machine to perform floating point arithmetic.

Q. Did any other software come with the PDP-1?

A. There was other software in the room; I don't know its origin; I can only assume that it came with the PDP-1. I don't recall its origin at this time. I don't recall what it was.

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Q. Did you start to use the PDP-1 shortly after it arrived at Bedford?

A. No.

Q. How soon after it arrived did you begin to use it?

A. I am not sure of the time period, it was not until it was moved to the second floor of Building 1.

Q. That is Building 1 at Bedford?

A. Yes.

Q. Are you familiar with the term Space War?

A. Yes.

Q. When did you first become familiar with Space War?

MR. ANDERSON: I object, with the term Space War, that is all you have asked him.

MR. WELSH: Yes.

THE WITNESS: After the machine was moved to the second floor of Building 1.

Q. What did Space War mean when you first became familiar with it?

MR. ANDERSON: Well, I object to the question, what did it mean to whom, when?

MR. WELSH: To the witness.

Q. I asked when, when he first became familiar with

A. the term. I am not sure that I really understand it.

Q. How did you first hear THE WITNESS: It was a program that was run on the PDP-1.

Q. Was it a demonstration program? THE WITNESS: I object to the question as lacking a foundation. What do you mean by a demonstration program? THE WITNESS: I also object to the question as grossly leading. Characteristics of the program.

Q. THE WITNESS: I am afraid I don't understand the phrase demonstration program.

Q. What type of a program was it? THE WITNESS: I object to the question as ambiguous and vague. What do you mean by what type of a program? THE WITNESS: He said it was a program to be run on the PDP-1.

Q. Do you understand that question? THE WITNESS: I object to the question as lacking a foundation.

A. I am not sure I understand type foundation.

Q. Well, what was the program to be used for? THE WITNESS: I would think, could I object to that, by whom? THE WITNESS: What do you mean to be used for? Do you mean did someone tell him what it was to be used for? There is no foundation.

Q. Do you understand that question? THE WITNESS: I object to the question as lacking a foundation.

A. I am not sure that I really understand it.

Q. How did you first become familiar with the term Space War?

A. Someone, I don't recall who, told me about having a - that they had a Space War program with the PDP-1.

Q. What did he tell you about it?

A. He told me the general characteristics of the program.

Q. What were those?

A. The fact that it depicted a couple of space ships on a CRT and the ships were operated by controls from the front panel of the computer and it had acceleration and turning and firing controls.

Q. Was Space War a program for a game?

MR. ANDERSON: I object to the question as leading, lacking a foundation.

THE WITNESS: It certainly,

I would think, could be considered as such.

Q. Did you ever observe the game of Space War being played on the CRT at the PDP-1 at Bedford?

A. Yes.

Q. When was that in relation to the time that the

PDP-1 was moved to the second floor of Building 1?

A. I don't recall precisely, but probably reasonably shortly thereafter. Were there some options that could be

Q. Were you informed as to where the program came all from? motions of the sense switches, but you had

A. No, I was not. Was the sun was there or not, whether

Q. Do you know whether the program came with the computer from whatever source it was acquired?

A. No, I don't know. In game mode.

Q. Did each player have a set of switches?
(Whereupon, a recess
MR. AMERSON: I object only
was taken.)

to the point of what do you mean by had a?

Q. Referring to the Space War game as you first observed it, could you describe in more detail set than you have already what actually happened in starting with what the player or players observed at the beginning of the game and what they did to play the game? controlled the other spacecraft.

A. I don't really recall what you see at the beginning of the game. The screen depicts a sun, a background of stars and two spacecraft, and the spacecraft are controlled from the - one of the set of

A. switches on the front panel. As I recall, you could

Q. control the acceleration, turning left or right and firing of, I believe they called them torpedoes. And I believe there were some options that could be selected by the sense switches. I don't recall all the functions of the sense switches, but you had options of whether the sun was there or not, whether the stars were there or not, whether it was a killer sun or not and I think there was one that controlled the turning mode.

Q. Did each player have a set of switches?

MR. ANDERSON: I object only

Q. to the point of what do you mean by had a?

A. He said the switches were on a console.

A. I am not sure that I THE WITNESS: There was a set of switches normally used for entering data in the PDP-1 and the four left-most switches controlled one spacecraft and the four right-most, I think it was four, controlled the other spacecraft.

Q. Were the four switches for controlling each space ship used to control the functions that you

A. stated of acceleration, turning left and right

Q. and firing torpedoes?

A. Yes.

- Q. Did anything happen if a player did not manipulate switches for his space ship?
- MR. ANDERSON: I don't know, I don't know. I object, it lacks a time frame or a foundation. You mean during operations, suddenly he stopped? He said he didn't recall what it looked like at the beginning. That has been his testimony.
- THE WITNESS: If you are in the killer sun mode, the force of gravity would eventually draw the ship into the sun and destroy it. There would be a series of them that would
- Q. What happened when a ship was destroyed? What was the appearance on the screen?
- A. I am not sure that I recall the details. It gave you the impression of an explosion, the ship disappeared. I don't recall how they conveyed that impression. They had a certain
- Q. You referred to the term "killer sun" and I believe stated it was an option of whether you could have a killer sun or not; is that correct?
- A. Yes.
- Q. What was the difference between the killer sun and the nonkiller sun?
- A. The space ship blew up.
- James H. Anderson*

- A. I am not sure that I recall. Killer sun obviously was if ^{you} ~~it~~ ^{ARM 5/28/76} fell into it, you were destroyed; and the nonkiller sun, I don't recall whether the sun was there or not.
- Q. Was gravity always present when the sun was present?
- A. I can't recall for sure.
- Q. What happened when a player operated the switch controlling the firing of torpedoes?
- A. The spot would emerge from what appeared to be the leading edge of the spacecraft and would proceed out. There would be a series of them that would proceed out for approximately two or three inches from the spacecraft location and then they would seem to pop.
- Q. Did they pop upon contact with the other player's space ship?
- A. They would pop without contact. They had a certain range and they popped after that range.
- Q. Did any torpedoes ever appear to strike the other player's space ship?
- A. Yes.
- Q. What happened when that occurred?
- A. It appeared that his space ship blew up.

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6 Q. In a manner similar to that when the space ship
was drawn into the killer sun?

A. I am not sure if the manners were similar or not.

7 Q. But it did appear to blow up?

A. It gave the impression of coming apart.

Q. Did anything happen if his space ship were moving
toward the edge of the screen of the cathode ray
tube and continued to move in that direction?

A. The craft would reappear at the opposite edge of
the screen as though left and right were connected
together and top and bottom were connected
together. at happened then.

Q. Did the torpedoes appear to do that also?

A. Yes. at Bedford?

Q. Was there any option available in which the

space ship or torpedoes appear to bounce off the

A. edge of the screen rather than appear on the

Q. opposite side? of time did you play the game?

MR. ANDERSON: I object to
your leading the witness.

THE WITNESS: I don't know
of any such option. the total span of time on

Q. Have you ever seen or played any version of
which five years

Space War in which there was such an option?

A. No. MR. WELSH: The total span of

Q. How long did a game of Space War last? That is, the one that you were first familiar with, off and

A. Do you mean the time period? in that room.

Q. Well, did it last for a limited time period or did

A. it last until a space ship was destroyed? or What

determined the end of the game?

A. Well, basically I guess it would be when a ship was

A. was destroyed. You could run into an odd situation

where both would run out of torpedoes and I don't

recall what happened then. or - - -

Q. Did you actually play this Space War game on the

PDP-1 at Bedford? all and other times maybe two

A. Yes, I did. on hours. - - -

Q. Did you play it more than once? and off during

A. Yes. whole period it was there? - - -

Q. Over what period of time did you play the game?

you are leading the MR. ANDERSON: I object to that

question as I have when you have asked similar leading

questions in the past, do you mean the length of

a single incident or the total span of time on

which he might have only played it twice five years

apart or what? of Civil Procedure and act in accordance therewith. MR. WELSH: The total span of time.

THE WITNESS: I have no specific recollection. THE WITNESS: Probably off and on over the period that it was in that room.

Q. Approximately how long was that period?

A. I don't recall the dates that it moved in or out. It was probably several years.

Q. Approximately how frequently did you play the game?

A. By that, do you mean how many times a week, that sort of thing, or how many times total?

Q. No, how many times a week or - was there at

A. It was highly variable dependent on the weeks.

A. Some weeks not at all and other times maybe two or three noon hours. people playing the game?

Q. But you continued to play it on and off during the whole period it was there? program?

A. A paper tape. MR. ANDERSON: I object,

Q. you are leading the witness. There is no foundation

A. for the question. Mr. Welsh, you persist in leading this witness and I think that is grossly improper.

A. This witness has not in any way been hostile to you or to your client's cause and I think you should

respect the Rules of Civil Procedure and act in accordance therewith.

THE WITNESS: I have no

specific recollection, but it is entirely possible.

Q. Did you play the game with other persons?

A. Yes.

Q. How many other persons would you estimate that you played the game with?

A. I can't recall specifically, but probably a few, maybe five.

Q. Did other people play the game than persons that you played with while the PDP-1 was there at Bedford?

A. I don't have any knowledge.

Q. Did you observe other people playing the game?

A. Only the ones that I had played with.

Q. In what form was this Space War program?

A. A paper tape.

Q. Did you have a copy of the program?

A. I copied the tape that was there.

Q. When did you do that?

A. I don't recall the date.

Q. Do you still have that tape that you copied?

A. No, that was sent to Mr. Seligman.

Q. I hand you what has previously been marked in depositions here as Exhibit 69 and ask if that is the tape which you gave Mr. Seligman?

A. It does appear to be. date is or what it is intended

Q. Is there more than one tape there? you made the

A. There does seem to be a second small one.

Q. What is that tape? that I copied the tape, yes.

A. That tape changes the constants of the program.

Q. What constants did you refer to?

A. Some of the constants that determined the

parameters. says to it.

Q. What parameters are you referring to?

A. I am not sure specifically which ones are on the tape, but they would be ones such as acceleration, turning rates, torpedo velocities, number of

torpedoes. rect that Exhibit 69 represents the program

Q. When did you make this copy? small tape which

A. I don't recall the date, but there is a date on the tape. which you prepared separately? that is

Q. What is the date on the tape?

A. The 9th of February, 1968. MR. ANDERSON: I object, you

are leading the witness. MR. ANDERSON: That is the

date that is punched in? say to that effect, you are testifying for him. THE WITNESS: Yes, that is punched into the leader of the tape in visible form. I copied the program as I originally copied it from

Q. Do you know what that date is or what it is intended to signify? Is that the date when you made the copy?

MR. ANDERSON: Well, the

A. That is the date that I copied the tape, yes. It,

Q. Did you ever have anything to do with changing the Space War program?

A. The basic program, you mean? The main tape is a

Q. Or adding things to it. as to the system. There is

A. Not other than the constants. and when modified

Q. And what did you have to do in that regard?

A. I just modified them to liven up the game a little

A. bit. The last few files. The smaller tape probably

Q. Is it correct that Exhibit 69 represents the program as you copied it and then the small tape which states, "Load: Then this tape to change constants," was one which you prepared separately? That is separate from Exhibit 69?

MR. ANDERSON: I object, you are leading the witness.

There has been no testimony to that effect, you are testifying for him.

THE WITNESS: This tape is the

original program as I originally copied it from whatever tape was with the system.

Q. That is Exhibit 69?

MR. ANDERSON: Well, the thicker part of Exhibit 69. As I understand it,

the tape marked RIM are part of Exhibit 69.

THE WITNESS: They are all

marked that. This portion of the main tape is a

copy of the tape that was on the system. There is

an extra section on the tail end which modified

some of the constants.

Q. Those are the last four or five folds?

A. Yes, the last four folds. The smaller tape probably

does similar things to this with maybe a different

set of constants, but its function is the same

as the last four folds of the main tape.

MR. WELSH: I would like to

ask the reporter to mark the smaller tape which was

a part of the total Exhibit 69 as 69-1.

about the time that I copied the tape, though.

(Whereupon, Sanders'

Exhibit No. 69-1 was

marked for identification.)

Q. Other than the tapes which were originally marked as Exhibit 69 and the smaller one of which now has been marked as Exhibit 69-1, did you furnish any other documents or things to Mr. Etlinger or anyone from his office?

A. Yes, I furnished an 8 1/2 by 11 sheet. ~~all material~~

Q. And what was that sheet? ~~I did not know.~~

A. That was an identification of the - some of the constants that I previously referred to. ~~two to~~

Q. I hand you now what has been marked previously as Exhibit 65 and ask if that is the 8 1/2 by 11 sheet to which you just referred to? ~~produce it in~~

A. Yes, this is the sheet. ~~that is the sheet~~

Q. Where did you obtain that sheet? ~~the lawsuit; what~~

A. I wrote it out. ~~the lawsuit~~

Q. That is your handwriting on there?

A. Yes. ~~the lawsuit; what~~ you to call in this

Q. When did you do that? ~~the lawsuit~~

A. I have no recollection of the date, it probably was about the time that I copied the tape, though.

- Q. That is Exhibit 69?ng knowledgeable of Space War.
- A. No, '65.'t say who?
- Q. I mean at the time that you copied the tape which is Exhibit 69? witness has already merely speculated
- A. Yes. he presumes that if Mr. Seligman said anything,
- Q. How did you happen to furnish Mr. Seligman or someone from Mr. Etlinger's office Exhibits 69-ation and 65? er.
- A. Mr. Seligman called me and asked me for all materials that I had on Space War, if I had any.
- Q. When did he call you? a search for documents
- A. I don't recall the date, approximately two to
- A. three months ago.
- Q. Did he tell you why he desired such materials?
- A. Only that Sanders was required to produce it in conjunction with their lawsuit. documents other
- Q. Did he say anything more about the lawsuit; what it was about or anything else?
- A. No, he didn't.
- Q. Did he tell you why he selected you to call in this regard? on a cathode ray tube with a computer
- A. I don't recall precisely, I assume, if he did mention it, he said somebody had given him my name as

A. someone possibly being knowledgeable of Space War.

Q. He didn't say who? Space War played on any display

with any computer? MR. ANDERSON: I object to the

question. The witness has already merely speculated

A. that he presumes that if Mr. Seligman said anything,

Q. he said that someone gave him the name; now, I

A. don't think that is any foundation for your question

whatsoever.

Q. What other games have? THE WITNESS: I have no

A. recollection of who different people call it.

Q. Did he ask you to make a search for documents

A. relating to Space War?

A. Yes, he did. seen any others.

Q. And did you make such a search? Space War on the

A. Yes, I did. PDP-1 at Bedford, had you ever seen any

Q. Did you find in that search any documents other

than these we have been discussing, Exhibit 65 the

and Exhibit 69? as already testified that he has

A. No, I did not. other games other than the ones he

Q. Have you ever seen or observed Space War being

played on a cathode ray tube with a computer here

subsequent to the time when you saw the game on

the PDP-1 at Bedford? MR. ANDERSON: Well, I may

A. No. If understood the question, I will let the

Q. Have you ever seen Space War played on any display with any computer here at the south of Nashua facility of Sanders? any game on a CRT in conjunction?

A. No, I have not.

Q. Have you ever seen any game other than Space War played on a cathode ray tube?

A. Yes. was probably early this spring or winter.

Q. What other games have you seen?

A. Pong or ping pong, different people call it a war different things. any other game played on a

Q. Any other games?

A. I have not seen any others. that one. I have seen

Q. Prior to the time you first saw Space War on the CRT on the PDP-1 at Bedford, had you ever seen any game on a CRT associated with a computer?

So, other than seeing MR. ANDERSON: I object to the question. He has already testified that he has never seen any other games other than the ones he referred to. War?

MR. WELSH: Earlier we were referring to subsequent ones other than at Bedford.

MR. ANDERSON: Well, I may

A. have misunderstood the question, I will let the witness answer.

Q. Well, have you seen THE WITNESS: Prior to the PDP-1 I had not seen any game on a CRT in conjunction with a computer.

Q. When did you first see the pong or the ping pong game?

A. That was probably early this spring or winter. January, February.

Q. Other than the pong or ping pong and the Space War game, have you seen any other game played on a cathode ray tube?

A. I am not sure how to answer that one. I have seen the Magnavox commercials on TV, if you call that seeing a game. I haven't seen any in real life, though.

Q. So, other than seeing games perhaps played on a commercial television set during a broadcast, you haven't seen any game other than pong or ping pong or Space War?

A. No.

Q. And that is not fixed with respect to time, that is any time?

A. Not of that nature that you couldn't play with a teletype.

Q. Well, have you seen some games played using a cathode ray tube display that you could play using a teletype?

A. Yes.

Q. And was that simply a matter of the appearance on the display of what would have appeared on a typewritten sheet?

A. Yes, very accurate. In the order of five years.

Q. So was it then in the nature of writing rather than generation of images such as Space ships which moved?

A. Yes.

Q. Do those then include all the games that you ever have seen using a cathode ray tube?

A. That is all I can recall.

Q. Are you acquainted with Mr. Ralph Baer?

A. Yes, I know him.

Q. How do you know Mr. Baer?

A. My department had business with him quite some time back. I believe at that time he was chief engineer of equipment design.

Q. When you say our department, what department were you speaking of?

MR. WOODSON: You are

A. I am not sure, but I think it was when I was working for Mr. Richmond.

MR. WOODSON: Yes.

Q. And what business did your department have with Mr. Baer?

A. We were using some of the services of one of his functional groups, as I recall.

Q. Do you recall when that was more specifically?

A. Not very accurately. In the order of five years, maybe.

Q. Did you have anything to do with Mr. Baer in connection with TV games?

A. No, none sounds familiar, but I don't know him.

Q. Did you ever discuss TV games with Mr. Baer?

A. No, I haven't.

Q. Have you ever discussed Space War with Mr. Baer?

A. No, I haven't.

Q. Have you discussed Space War with anyone at that Sanders other than the five persons, more or less, that you played the game with at Bedford?

MR. ANDERSON: And, counsel, Mr. Seligman and Mr. Etlinger and me?

MR. WELSH: Yes.

MR. ANDERSON: You are ~~not~~
excluding them?

MR. WELSH: Yes.

THE WITNESS: I can't recall
any specific occasion.

Q. Was the first time that you discussed Space War
with the Patent Department here at Sanders two or
three months ago when you provided these documents?

A. Yes.

Q. Are you acquainted with Mr. William Rusch?

A. I have heard the name; I don't know the person.

Q. Are you acquainted with Mr. William Harrison?

A. The name sounds familiar, but I don't know him. I
can't recall him.

Q. When I asked the questions about your knowledge of
any games played on cathode ray tubes, were you
restricting your answers to games that you
observed at Sanders or did you include games that
you observed anywhere?

A. Games anywhere. I have not observed any at
Sanders other than Space War.

Q. And that was only at the Bedford plant?

A. That is correct.

Q. Now, when you prepared MR. WELSH: I have no more questions on direct examination, then punched tape

of Space War?
(Interrogatories by Mr. Anderson.)

Q. Mr. Green, I think you testified that, to the best of your knowledge, the tape that is before you as Exhibit 69, the legend Space War 3.1? Exhibit 69 is a copy that you prepared?

A. Yes, it is.

Q. Was that on the punched tape that you were copying?
Q. Now, is there any way that you can specifically identify this tape as being the one that you

A. That information was on the tape, I don't know if prepared?

A. Only by the means of my handwriting on the front

Q. Do you know if you manually injected the information fold.

Q. That is your handwriting in black on the front fold of Exhibit 69, is it?

A. The black and I think also - I am not sure about

A. I incorporated the visible punchings, the red. Possibly the red.

Q. What is the red, if you know?

A. It is a repeat of this. This looks like it is a

Q. poor "J," that doesn't look like my kind of "J," so I don't recall, but to include the I am not sure on it.

Q. Did you make more than one punched tape of Space War?

A. Not to my recollection. Late of copying, you were

Q. Now, when you prepared the punched tape of Space War, did you prepare it from another punched tape

A. of Space War? Yes, that is correct.

A. Yes, I did. I now specifically injecting the holes

Q. And do you see at the beginning of the tape,

A. Exhibit 69, the legend Space War 3.1?

A. Yes. makes you sure of that?

Q. Was that on the punched tape that you were copying, do you know? tape.

A. That information was on the tape, I don't know if it was punched in that particular form or not.

Q. Do you know if you manually injected the information

A. so that the tape, Exhibit 69, was punched to include the words "Space War 3.1" or was it on the tape in some way?

A. I incorporated the visible punching.

Q. You did that personally?

A. Yes.

Q. Do you recall doing that? If I understand

A. I don't specifically recall, but to include the

Q. date of copying, I am quite confident that I must

have put all of that data in it. you made Exhibit 69

Q. And when you said the date of copying, you were

A. referring to the punched holes after the punched holes Space War, 3:1? I don't know. I did not leaf

A. Which is 9 Feb, '68, that is correct.

Q. Do you recall now specifically injecting the holes that state 9 Feb, '68? Did you hand it to

A. I don't recall, but I must have.

Q. What makes you sure of that? Did you see the tape for

A. I am sure that the copy of 9 Feb, '68, was not on

Q. the original tape. Do you now recall if the

Q. Do you specifically recall that the copy that you had in your possession did not have the "copy 9 Feb, '68," that you copied?

A. Try that again. MR. WELSH: Counsel, I think

he answered that specifically. MR. ANDERSON: Read it back.

MR. ANDERSON: No, he has no (Whereupon, the previous recollection?

question was read back by the reporter.)

correct.

THE WITNESS: If I understand the question, no record to be ambiguous.

Q. You do not recall for certain whether the copy that you had in your possession when you made Exhibit 69

Q. had this legend, "copy 9 Feb, '68," on it or not?

A. No, I did not examine the tape before giving it to Mr. Seligman, so I don't know. I did not leaf through it to know what was on it.

Q. Now, what you are saying is that you did not leaf through Exhibit 69 before you handed it to

Mr. Seligman?

A. That is correct, and I had not seen the tape for several years, it was in my file.

Q. Now, my question is, do you now recall if the copy that you used, the tape that you used to make Exhibit 69, did or did not have punched into it

the legend, "copy 9 Feb, '68"?

A. None were prepared, MR. WELSH: Counsel, I think he answered that specific question no.

Q. I place before you MR. ANDERSON: No, he has no recollection? recollection, have you ever seen that specific tape before? MR. WELSH: I believe that is correct.

Q. I open up the first MR. ANDERSON: I am not sure. I don't want the record to be ambiguous.

Q. Do you understand my question now?

A. I don't recall.

Q. You don't recall? it was.

A. No, you have any belief as to the reason that the

Q. So that legend, "copy 9 Feb, '68," may have been
in punched form on the tape that you used to make
Exhibit 69? that, to the best of your knowledge, you

A. That is possible.

Q. Do you have any reason at the present time to believe
that that is not a fact? That that legend was
on the tape which you copied? why that would not

A. No, true, that that date was on the tape that you

Q. Do you know whether any copies were ever prepared
from Exhibit 69?

A. Not to my knowledge. Sanders' Deposition Exhibit 3

Q. None were prepared, to the best of your knowledge?

A. No, to the best of your present recollection?

Q. I place before you Sanders' Exhibit 5, to the
best of your recollection, have you ever seen that
specific tape before? writing on it as the writing

A. I can't be sure.

Q. I open up the first three folds and call to your
attention the punched legend, "Space War 3.1, copy
9 Feb, '68," do you know if that was prepared,
if Exhibit 5 was prepared from your tape, Exhibit 69?

A. I would doubt that it was. copy 9 Feb, '68," appears

Q. Do you have any belief as to the reason that the same date, "copy 9 Feb, '68," appears both on your tape, Exhibit 69, and on the tape, Sanders'

A. Exhibit 5, that, to the best of your knowledge, you have never seen before?

A. I have no knowledge, I can only guess that it was on the original tape that I copied.

Q. And do you know of any reason why that would not be true, that that date was on the tape that you originally copied?

A. No. MR. WELLS: I have some more

Q. I place before you Sanders' Deposition Exhibit 3 which is a paper tape; have you ever seen that before, to the best of your present recollection?

Q. That particular physical exhibit?

A. No. I am.

Q. Do you recognize the writing on it as the writing of any particular person? expert from, I believe,

A. Shortly after they acquired the PDP-10 until about No, I don't.

Q. I call your attention to the first three folds

that have any punched marks on them or Sanders'

Exhibit 3 and call to your attention the fact that

Q. the legend, "Space War 3.1" copy 9 Feb, '68," appears
A. on those three folds. Do you have any knowledge
Q. as to the source from which that punched information
was placed on Exhibit 3? It of the PDP-10?

A. No, I haven't. number of questions about the various

Q. Do you have any reason at all to believe that

Q. Exhibit 3 was prepared from the copy that - the

A. tape that you produced, Exhibit 69?

A. No, I do not. Inted with a Mr. Ted Hainson?

A. Yes, I am. MR. ANDERSON: No further

Q. cross-examination. become acquainted with him?

A. While working for Mr. MR. WELSH: I have some more

Q. questions. u become acquainted with Mr. Hainson?

A. Mr. Hainson was also working for Mr. Richmond in

(Interrogatories by Mr. Welsh.) that department.

Q. Are you acquainted with John Sauter?

A. Yes, I am. call the precise name of it, I think it

Q. How are you acquainted with Mr. Sauter?

A. He was our resident PDP-10 expert from, I believe,

A. shortly after they acquired the PDP-10 until about
the end of the year. field, I do believe.

Q. Did you have any MR. ANDERSON: Of what year?

A. I don't recall any. THE WITNESS: '75 or early '76.

- Q. When did they acquire the PDP-10?
- A. I don't recall. Early '70, I think.
- Q. Did you ever have any dealings with Mr. Sauter in his capacity as the expert of the PDP-10?
- A. I asked him a number of questions about the various system aspects of the PDP-10.
- Q. Did you ever discuss Space War with Mr. Sauter?
- A. No, I didn't.
- Q. Are you acquainted with a Mr. Ted Mairson?
- A. Yes, I am.
- Q. When did you first become acquainted with him?
- A. While working for Mr. Richmond.
- Q. How did you become acquainted with Mr. Mairson?
- A. Mr. Mairson was also working for Mr. Richmond in heading up a different group in that department.
- Q. What group did he head up?
- A. I don't recall the precise name of it, I think it had something to do with analysis.
- Q. Did he work with computers?
- A. I have no personal knowledge of that. He is knowledgeable in the field, I do believe.
- Q. Did you have any direct dealings with him?
- A. I don't recall any. There may have been some

incidental ones. *Green.*

Q. Did you ever discuss Space War with Mr. Mairson?

A. I would doubt that very much. *Reading R. D. Green*

Q. You don't have any recollection of that?

A. I don't recall ever discussing it with him.

COURTY OF *Shelburne* MR. WELSH: That completes
my additional direct examination. *this is all*

day of *July 20th* MR. ANDERSON: Mr. Wright, do
you have any questions that you would like to ask
this witness?

Wright
MR. WRIGHT: No, I don't.

MR. ANDERSON: Mr. Green, the
parties have agreed that if it is agreeable to the
various witnesses, that each witness will read the
transcript of his testimony and the witness will
make any corrections that they deem necessary and
will sign it before any notary public, is that
agreeable to you?

THE WITNESS: Yes.

MR. ANDERSON: Is that
acceptable to you, Mr. Welsh?

MR. WELSH: Yes.

MR. ANDERSON: Thank you

Very much, Mr. Green.

COUNTY OF Hillsborough

I, Gordon R Green
Deponent

THE STATE OF NEW HAMPSHIRE) authorized to administer oaths
COUNTY OF Hillsborough) SS.

Subscribed and sworn to before me this 28th
day of May 19 76

at the General Associates, Inc., Headquarters, Spit Brook Road, Westboro, New Hampshire,

Gordon Richard Green, a witness called by Marilyn E. Trapalis
of the defendant in the above Justice of the Peace and/or
Notary Public

In the United States District Court
District of New York and t Marilyn E. Trapalis
Notary Public
My Commission Expires March 19, 1980

for the Northern District of Illinois, Eastern Division;

that the said witness was duly sworn to testify to the
truth, the whole truth and nothing but the truth; that
thereupon and while said witness was under oath, the
said deposition was taken down by me in machine shorthand
at the time and place herein stated and was thereupon
referred to the prevailing.

I further certify that I am not
interested in the outcome of said action.